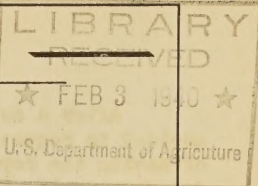


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# news letter

Bureau of Agricultural Chemistry and Engineering of the  
U. S. Department of Agriculture. *Not for publication.*



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No. 7

## GENERAL ADMINISTRATION

During the first part of December and again in January officials of the Bureau appeared before the House Committee to testify with regard to the Bureau's items for the 1941 Agricultural Appropriation Bill. During these hearings testimony in connection with the work of the Bureau was given by Dr. Knight, Dr. Skinner, Mr. Herrick, Dr. Swenson, Mr. Donovan, and Mr. Gray.

The 1941 Budget as submitted by the President to Congress early in January included, under regular funds, \$1,051,975 for the Bureau. In addition there is included \$3,200,000 for the four regional research laboratories and \$239,480 for Bankhead-Jones research projects, these two latter amounts being the same as the allotment for the current year.

In submitting the budget the President included therein a recommendation for a uniform administrative promotion policy which provides for within-grade promotions, where the average of the grade permits, of one step for eligible employees in grades having a minimum salary of \$3,200 or above, who, on June 30, 1940, shall not have received a promotion since June 30, 1936, and one step for eligible employees in grades having a minimum salary of less than \$3,200, who on June 30, 1940, shall not have received a promotion since June 30, 1938.

The preparation of the Budget for the fiscal year 1941 necessitated a great deal of rush work on the part of many employees of the Bureau. The splendid cooperation which the various bureaus gave was commented on by Mr. Jump in a recent memorandum expressing the Department's appreciation. This memorandum is being circulated along with Bureau Memorandum No. 138, in which Dr. Knight has expressed his own deep appreciation of the service rendered by the many employees in this emergency situation.

The transfer of the Fertilizer Research Division to the Bureau of Plant Industry on December 1, 1939, has, as a matter of course, necessitated some transfers from the Business Administration Division of this Bureau because of the additional administrative activities in that Bureau occasioned by the transfers. There were transferred to the Bureau of Plant Industry from the Administration Division Sidney J. Adams, Purchase and Property Section, Arthur D. Hoffman, Audit Section, and Frank LaParle, Bookkeeping Section.

After a conference with Division Chiefs, Dr. Knight and Dr. Skinner decided to request a semi-annual and an annual report on projects instead of having the reports submitted each quarter. The semi-annual report is due January 15, in accordance with Bureau Memorandum No. 122.

At the request of the Project Committee of the Department the Uniform Projects of the Bureau are now being revised in order that a complete historical record of changes in the program of work and organization may be available.

During the month of December George R. Boyd travelled to Lansing, Mich., and St. Paul, Minn., in connection with the Farm Operating Efficiency work; thence to Corvallis, Ore., to confer with W. M. Hurst on flax processing; thence to Albany, Calif., and New Orleans, La., to inspect the progress of construction on these two regional research laboratories.

During December S. H. McCrory attended the A.S.A.E. meeting in Chicago. On the return trip Mr. McCrory conferred with Prof. G. W. McCuen and others at Columbus, Ohio, in connection with the Farm Operating Efficiency work. Later in the month Mr. McCrory visited Suffern, New York, to confer with Mr. Ralph Borsodi, Director of the School of Living relative to the proposed cooperative studies on rural electrification.

S. W. Griffin returned to Washington in November, 1939, to prepare a report of his summer survey of the nature and extent of damage to crops and vegetation caused by fumes from the Trail Smelter in North Stevens County, Wash. In 1937 the International Tribunal placed the Trail Smelter Corporation under an operating regime which somewhat limited its metallurgical process and provided for a 3-year period of observation, during which time it would become apparent whether or not the operating regime was sufficiently restrictive to prevent further damage. Mr. Griffin plans to return to the West in April or May, 1940, to make his final survey.

The cornerstone of the Southern Regional Research Laboratory at New Orleans, La., was laid December 29, 1939, the Honorable Harry L. Brown, former Assistant Secretary of Agriculture, presiding. Dr. Henry G. Knight, H. T. Herrick, and F. L. Teuton of Washington, D.C., and Director D.F.J. Lynch and the staff of the laboratory attended the cornerstone laying. Senator Theodore G. Bilbo of Mississippi, made the principal address. In speaking of the personnel that will man the laboratory Senator Bilbo said "All honor to those adventurous souls -- 200 strong -- who will be drawn into a life of research with and through the scientific facilities here afforded. It is my confident belief they will transform the 'Number one economic problem of the South' into the one universal hope of the Nation."

F. L. Teuton, Chief, Editorial and Information Division, attended the cornerstone laying ceremony for the Southern Regional Research Laboratory at New Orleans, La., in connection with a trip which included visits to a number of the Bureau's field stations, including the Pickle Laboratory at Raleigh, N.C., Naval Stores Station at Olustee, Fla., the Tung-Oil Laboratory, at Gainesville, Fla., the Citrus Products Station at Winter Haven, Fla., the Tung-Oil Laboratory at Bogalusa, La., the Sugar cane



Laboratory at Houma, La., the Experimental Sugar Factory, Louisiana State University; and the Cotton Ginning Laboratory at Stoneville, Miss. He also visited the Paper Mill at Panama City, Fla. and the duPont Paper Mill at Port St. Jose, and the Tung Nut Crushing Plant at Bogalusa, La.

Dr. Knight delivered an address entitled "The Four Regional Research Laboratories" at the annual meeting of the National Association of Commissioners, Secretaries and Directors of Agriculture, held in Chicago on December 5, 1939. Dr. Knight discussed the factors leading to the selection of the four sites for the laboratories and the programs of research which will be undertaken at each.

"The Regional Research Laboratories and Some of their Research Projects" was the title of an address made by Dr. Knight before the Power Machinery Department of the Farm Equipment Institute, Chicago, Ill. on December 7, 1939.

The same day he delivered an address before the annual meeting of the Peoria, Ill., Association of Commerce on "The Farm Research Laboratory Program". Dr. Knight said that "the Peoria laboratory is just one of four regional laboratories that make up the Government's new farm research program. There is to be a laboratory for each of the four major farm producing areas of the country. While each laboratory will work on the crops of greatest importance in its section, yet the work of all the laboratories will be so closely coordinated that it will be like one big research program attacking the farm problem on a national scale."

Dr. Henry G. Knight, Mr. H. T. Herrick, and Dr. O.E. May plan to meet with the Directors of the North Central Experiment Stations in Chicago on January 22 to discuss the program of research of the Northern Regional Research Laboratory.

David Dietz, Science Editor for the Scripps-Howard Newspapers, in a recent article headed - U.S. Farm Laboratories 1939's Biggest Event - said "Future historians may look back to the establishment of the four regional research laboratories of the United States Department of Agriculture as the most important event of 1939. These laboratories are designed to bring a scientific and realistic approach to what many authorities regard as the nation's most fundamental problem, namely, the farm problem.

"They will seek to solve the farm problem in the only way that scientists believe it can be solved - by finding new markets for farm products and new uses for them in industry."

Mr. Dietz then quoted extensively from Secretary Wallace's address at the cornerstone laying of the Peoria Laboratory.

## RURAL ELECTRIFICATION RESEARCH

A research project, cooperative with the Farm Security Administration, has been started on the Irwinville Resettlement Area at Irwinville, Ga. The object is to study operations and processes on low-income farms with the hope of discovering new and profitable uses of electricity. About 90 farms, all supplied with electricity by an R.E.A. financed cooperative power project, are included in the study.

The records that the farmers are expected to keep for the F.S.A. are made available to the Bureau's investigator in return for advice and assistance concerning rural electric problems.

H. L. Garver spent January 11 and 12 in the Shenandoah Valley consulting with operators of egg storage and receiving stations on methods of cooling. He visited also the Department of Agricultural Engineering at Virginia Polytechnic Institute in the interests of the cooperative project between the Bureau and that institution.

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## FARM MECHANICAL EQUIPMENT RESEARCH

R. B. Gray, W. H. Redit and L. G. Schoenleber attended the Pennsylvania Agricultural Show at Harrisburg, Pa., on January 16, particularly to inspect the farm machinery display. A large number of manufacturers were represented and the use of rubber tires on tractors and all sorts of field machines was much in evidence. Tractors were conspicuous, some dozen makes including two or three garden tractors were displayed. Four makes of pick-up balers were shown, one of which was of the self-feeding, self-tying type. A number of combines in sizes from 40 inches to 60 inches; transplanters, including a two-row mounted on a general purpose tractor, potato planters and diggers, and all sorts and sizes of spraying equipment, were exhibited.

On January 4, 5, and 6 E. M. Mervine attended the Second General Meeting of the American Society of Sugar Beet Technologists in Denver, Colo. Five years ago two members of the Department of Agriculture invited to Fort Collins a few men interested in experimental work on sugar beets, for a discussion of results of this work and plans for future work. These meetings have grown in size and interest and the meeting in Denver this year was attended by nearly 300 men from all parts of the United States. S. W. McBirney presented a paper entitled "Development and Performance of Single Seed Sugar Beet Planters". With three groups holding concurrent meetings, the farm machinery section drew about half the number registered and much interest was shown in the reports of recent developments in sugar beet production equipment.

Frank Irons spent December 20 and 21 attending a corn borer insecticide conference at New Haven, Conn. Representatives of the various States and Federal Government agencies carrying on insecticide investigations for the control of the corn borer were present. The object of the conference was to compare methods and results and to correlate the future investigations of this problem.

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## REGIONAL RESEARCH LABORATORIES

Dr. C. H. Kunsman, long active in research work in the Department of Agriculture, has been appointed Chief of the Physico-chemical and Analytical Division of the Western laboratory. For many years Dr. Kunsman has headed the Fertilizer Research Division of the Department, and has been instrumental in the development of many chemical and physical improvements in catalysts for nitrogen fixation and in fertilizer production processes. In 1938 he headed the American delegation to the First International Congress on Chemical Fertilizers at Rome, Italy.

His new work will have to do with phases of research on the industrial utilization of all of the farm commodities to be studied at the new laboratory, which in the beginning will include wheat, fruits, and vegetables, Irish potatoes, and alfalfa.

A native of Pennsylvania, Dr. Kunsman was graduated from Pennsylvania State College in 1914, obtained his M.S. degree from the University of California the following year and his Ph. D. from the same institution in 1920. He spent two years as head of the Physics Department, New Mexico College of Agriculture and Mechanic Arts; one year as member of the United States Army School of Military Aeronautics, Berkeley, Calif., during the World War; three years as research physicist and engineer with a large industrial concern; and then 16 years with the United States Department of Agriculture on problems in nitrogen fixation and fertilizer production and use. He holds a United States patent on a positive ion device, commonly known as the "Kunsman ion source", widely used throughout the world in scientific investigations. He is a member of the Advisory Council on Applied Physics of the American Institute of Physics.

Dr. J. J. Willaman has been appointed Chief of the Biochemical Division of the Eastern laboratory. He will direct researches on the development of new and improved means for the utilization of apples, vegetables and tobacco.

Dr. Willaman is a graduate of the University of Wisconsin and received his Ph. D. degree from the University of Chicago in 1919. For many years he was on the staff of the Minnesota Agricultural Experiment Station. After this he was chief of the chemistry division of the New York State Agricultural Experiment Station at Geneva. Lately he has been engaged in the development of enzymes for industrial use for a chemical manufacturing company at Philadelphia.

Because he has had many years experience in investigating plant products, he is believed to be particularly well suited to the new work at the Eastern laboratory. Among his achievements are improvements in the manufacture of sorghum sirup, determination of some of the chemical relations involved in plant diseases, means of improving the quality of canned peas, and application of various enzymes to industrial processes.

H. T. Herrick and Dr. O. E. May will be in the Middle West until the first of February. In addition to general consultations in the Northern area with reference to the work of the laboratories, they will attend, with Dr. Knight, the meeting of the North Central Experiment Station Directors in Chicago.

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Dr. Hugh H. Mottern has been transferred from the United States Fruit and Vegetable Products Laboratory, Pullman, Wash. to the Eastern laboratory, at Philadelphia, where he will be in charge of apple utilization studies in the Biochemical Division

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Dr. James F. Couch recently was appointed by transfer from the Bureau of Plant Industry to the position of Chief of the Tobacco Section of the Analytical and Physical Chemical Division of the Eastern Laboratory.

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Dr. Ernest G. Beinhart was transferred to the Eastern laboratory on January 1, 1940, from the Agricultural Adjustment Administration. He will be in charge of the Commodity Development Division with special reference to the program on tobacco.

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Helmut C. Diehl of the United States Frozen Pack Laboratory, Seattle, Washington, is in Washington, D.C., on an assignment from the Western Regional Research laboratory with reference to fruit and vegetable utilization.

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Ray H. Nagel presented a paper entitled "Background and Objectives of the Western Regional Research Laboratory" before the annual conference of the Agricultural Extension Service of California, at Berkeley, Calif., on January 6, 1940. He also spoke before the Oxford P.T.A. Dad's Club at Berkeley, Calif., on January 8, on the subject "Present Development and Plans of the Western Regional Research Laboratory", and on January 19 before the Almond Institute, University of California, College of Agriculture, at Davis, Calif., on "Work of the Western Regional Research Laboratory."

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R. E. Lothrop gave an address entitled, "Progress on the Eastern Regional Research Laboratory", before the Eastern Montgomery County Council of Republican Women, at Jenkintown, Pa., on January 2.

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Dr. Louis B. Howard spoke before the Peoria Chapter of the American Association of University Women on January 13, and before the Home Economics Club of Peoria on January 9, at Peoria, Ill., on the subject, "Northern Regional Research Laboratory".

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## FOOD RESEARCH

H. E. Goresline of the microbiology section attended the annual meeting of the American Society of Bacteriologists in New Haven, Conn., the latter part of December, where he presented a paper on "The Fermentation of Ameliorated Musts". He also participated in a round-table discussion on fermentation at which time he discussed the pickle work of the Division.

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Carl Berger, in charge of the Camera Department of Scientific Films, Inc., Hollywood, Calif., while in Washington recently for the purpose of filming activities at Langley Field, received a wire from his home office to cover the subject of the Division's plant preservation project. Over 1,000 feet of colored motion picture film was used in this assignment which extended over a period of 4 1/2 days. In addition to showing the various steps in the processes developed by Dr. Chas. E. Sando and G. R. Fessenden, shots were taken of Dr. Knight examining the finished specimens. Pictures of the patio exhibit and close-ups of quite a number of specimens were also included. The film when completed will be distributed by Paramount Studios. The Bureau will receive a copy of the film.

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J. L. Heid of the Fruit and Vegetable By-Products Laboratory, Weslaco, Tex., attended the Texas Agricultural Workers' Association at Dallas, Jan. 12-13. Considerable interest is being evidenced at the present time in the work of the Weslaco laboratory on the preservation of fruits and vegetables in the Southeastern States.

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A visitor of the Division during the holiday season was Dr. F. C. Blanck, former chief of the Division.

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A letter dated Oct. 11, 1939, to Dr. H.G. Knight from the Rohm and Haas Company of Philadelphia stated that the Division's plastic-mounted specimens were some of the most beautiful articles which have ever been made with their materials. A request was granted to exhibit the specimens at the Franklin Institute in Philadelphia. Dr. Sando personally transported the specimens to Philadelphia, Jan. 8, where he supervised the assembling of the exhibit. It includes a collection of Peruvian corns obtained through the cooperation of the Pan American Union and the National Agrarian Society of Peru. One of the ears of corn is four centuries old, having been exhumed from the grave of an Inca warrior. Other specimens in the exhibit are various insects including a tarantula, a 4 1/2 pound block containing Mississippi cotton, and other items. The specimens are preserved in transparent blocks of glass-clear, unbreakable methacrylate plastic.

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After the exhibit had been assembled the Rohm and Haas Company extended invitations to 150 members of the Franklin Institute, the Eastern Regional Research Laboratory, officials of their own company, and friends, to attend a reception and official opening of the exhibit. The exhibit will remain at the Franklin Institute for about six weeks. All expenses in connection with it will be defrayed by Rohm and Haas Company.

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E. A. Beavens of the Geneva field station of the Division spent a day in the Washington office the latter part of December, conferring with regard to the work of that station.

D. G. Sorber of the Laboratory of Fruit and Vegetable Chemistry in Los Angeles attended the Annual Canning School at Ogden, Utah, and the Dairy Short Course at the Agricultural Experiment Station, Davis, Calif., the early part of January. He assisted in the courses by giving informal talks on "Preservation of Fruits and Vegetables by Freezing" and "Ice Cream Sundae Toppings." This participation served the purpose of making contacts with commercial canners and freezers and furthering the cooperative work along these lines which was started in Utah last year. At Davis conferences were held with commercial and University workers in the utilization of fruit purees in ice creams for toppings.

Seven members of the Seattle and Pullman stations of the Division attended the Northwest Canners Convention in Seattle January 3-5. This is an annual meeting and reports indicate that the sessions were both interesting and helpful.

The Food Research Division participated in the cornerstone-laying ceremonies of the Southern Regional Research Laboratory at New Orleans, December 29, by furnishing specimens preserved by the Plant Preservation processes. These consisted of blocks of methacrylate plastic containing cottonseed arranged to form "A.C.E.", the initials of the Bureau, new coins, a bowl of Mississippi cotton, and three varieties of peanuts prepared by Dr. Sando, and a section of sweetpotato showing its external appearance, accompanied by leaves of two varieties of the sweetpotato and their respective blossoms, mounted by Mr. Fessenden by his special process. Special velvet-lined walnut boxes were supplied for each of these specimens. In addition to the specimens furnished, an acryloid water-proofed copy of an article from the December 1938 issue of Modern Plastics which gives the essential features of the plastic embedding process was included, together with a protected copy of the patent describing the Fessenden process of mounting. Those participating in placing the pieces in the cornerstone were Dr. Knight, Mrs. Chas. Smither (1938 Carnival Queen), Senator Theo. G. Bilbo, former Assistant Secretary Harry L. Brown, and D.F.J. Lynch.

M. K. Veldhuis, C. W. Eddy and A. M. Neubert of the Fruit and Vegetable By-Products Laboratory at Pullman, Wash., and Mr. Horace Campbell of the U. S. Frozen Pack Laboratory, Seattle, attended the North Idaho Horticultural Society at Lewiston, Idaho, January 5 and 6. Mr. Eddy gave an informal talk on prune by-products and other by-products investigations, and Mr. Campbell discussed frozen foods and their preparation.



#### CARBOHYDRATE RESEARCH

R. T. Balch returned to Laurel, Miss., on January 2 from Houma, La., to continue work on dehydration of sweetpotatoes in connection with production of sweetpotato starch.

E. K. Ventre has returned to Washington from a trip through the West during which he conferred with producers of beet sugar regarding improved manufacturing processes.

C. A. Fort returned to Washington January 2 from the Houma, La., field station, where he had been engaged in seasonal investigations on sugarcane.

Dr. F. H. Thurber and R. M. Kingsbury returned to Washington late in December from Laurel, Miss., where they had been engaged in studies in connection with production of starch from sweetpotatoes at the Laurel starch plant.

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#### NAVAL STORES RESEARCH

Dr. Martin Leatherman attended the meetings of the American Society of Horticultural Science at Columbus, Ohio, from December 27 - 30, 1939, where he presented a paper entitled "The Use of Copper Resinate as a Treatment for Paper Pots", by himself and V. R. Boswell of the Bureau of Plant Industry.

W. C. Smith went to Baltimore on January 4, to consult with the Continental Can Company with reference to containers for turpentine; he also conferred with the Burt Machine Company relative to crystallization of rosin.

#### Publications

Lactonization of Dihydro-1-abietic and Dihydro-1-Pimaric Acids  
(E. E. Fleck and S. Palkin) Jour. Amer. Chem. Soc. 61, 3197 (Nov. 1939).

The Naval Stores Station Holds a Demonstration for the Jacksonville District Naval Stores Conservation Field Men. (G.P. Shingler) Naval Stores Review, 49, 40, p. 19, (Dec. 30, 1939).

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#### FARM STRUCTURES RESEARCH

A. H. Senner and R. T. Smith, who have been working on heating problems at Baltimore, were in Washington recently to assist in the analysis of the studies related to heating Wisconsin farm houses.

W. R. Swanson of Hays, Kans., had a short conference with members of the Kansas Agricultural College staff at Manhattan regarding the wheat and grain sorghum storage investigations. Mr. Swanson also visited the corn storage projects at Ames, Iowa.

A. D. Edgar left his headquarters at Scottsbluff, Nebr., to visit the potato storage project at Fargo, North Dakota. He inspected the test

storages in North Dakota and appeared before several county meetings of farmers to discuss potato storage.

Mr. Carpenter and Mr. Krewatch of the Agricultural Engineering Department at the University of Maryland were in the Washington office to consult with M.A.R. Kelley and others regarding a study of dairy barn lighting.

Otto E. Brunkow has been appointed Assistant Architect to take charge of the farmhouse project at Madison, Wis. Studies are made in occupied farmhouses in cooperation with the University of Wisconsin. Mr. Brunkow took up his duties January 2.

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#### INDUSTRIAL FARM PRODUCTS RESEARCH

Drs. A. J. Moyer and L. B. Lockwood attended the 8th Annual Meeting of the Mycological Society of America, at Columbus, Ohio, December 28-30.

Messrs. Geo. E. Ward and Benjamin Tabenkin attended the meeting of the Society of American Bacteriologists, New Haven, Conn., Dec. 28-30.

A. L. Pitman attended the Sixth Chemical Engineering Symposium, sponsored by the Division of Industrial and Engineering Chemistry of the American Chemical Society, at Ann Arbor, Mich., December 28 and 29.

Recent visitors were Dr. Donald Price, Chief Chemist, National Oil Products Co., Harrison, N.J.; interested in wetting agents, addition agents to lubricants, and organic synthesis; Dr. H. C. Speel, Atlas Powder Co., Wilmington, Del.; interested in sorbose from sorbitol; Dr. F. R. Davis, Rohm & Hass Co., Bristol, Pa.; interested in mold culture; Mr. and Mrs. Joel Shubin, formerly in charge of the Russian Exhibit at World of Tomorrow Fair, N.Y., home: Moscow, Russia; interested in utilization of chemicals in relation to agricultural products; C. L. Gabriel, Manager, Market Development Division, Commercial Solvents Corp., New York, N.Y.; interested in oils, fats, and waxes; H. F. Shattuck, Monsanto Chemical Co., St. Louis, Mo., interested in plastics and oils, fats, and waxes; Dr. P.S. Dunn, Technical Director, Southern Alkali Corp., Corpus Christi, Texas, interested in sodium chlorate; R. W. Wilson Jr., of Frederick Stearns & Co., Detroit, Mich., interested in rotary drum fermenters and kojic acid.

T. H. Hopper and D. H. Wheeler, senior chemists at the U.S. Regional Soybean Industrial Products Laboratory, were in Minneapolis, Minn. Dec. 13-15, for conferences with Dr. C. H. Bailey, collaborator of the Soybean Laboratory, and other members of the staff of the University of Minnesota. They also visited General Mills, Inc., and Archer-Daniels-Midland Company.

W. H. Goss of the Soybean Laboratory attended the Symposium on Separation Operations of the Division of Industrial and Engineering Chemistry, American Chemical Society, at Ann Arbor, Mich., Dec. 28-29. While in Michigan Mr. Goss visited Leslie Laboratories at Ann Arbor and the Ford Motor Company at Dearborn.

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## PLANS AND SERVICE

The Division has recently been commissioned by F. J. Sette of the Secretary's Office to design a new film storage vault to be located at the Research Center, Beltsville, Md. The vault will replace the one located at Abingdon, Va., which was designed by this Bureau for the Soil Conservation Service approximately 2 years ago. The Abingdon vault is to be razed for the expansion of the Washington airport facilities. The new storage vault will be a single story brick and reinforced concrete building housing an office and 20 storage compartments capable of holding 1,000 pounds of film each. Design features include summer-winter air conditioning, fireproof construction, a dry-type sprinkler system, burglar alarm system, all of which will place it in the class of an ultra-modern film archive.

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The Division has recently been notified of the completion of several major projects of its design located at the Research Center, Beltsville, Md. These projects consist of the palmhouse and greenhouses, the cold storage laboratory and the central heating plant. These projects are of a very modern type and are leaders in their respective fields. For example, in the cold storage building there are some 23 controlled temperature and humidity rooms which cover the complete range of temperature and humidity conditions required for fruit storage. The power plant is of the virtual 'pocket battleship' type. It is capable of generating enormous quantities of steam in comparison to its size and cost. In its design special attention has been paid to quick steaming as required for the type of connected load. The glass houses are believed to be among the largest in the world and cover approximately 4 acres.

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Favorable bids have been received covering recently prepared designs for the extension of the Winter Haven, Fla. laboratory. Construction contracts will be awarded within the near future, hence, the project is likely to be completed within the next 4 months.

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## PROCESSING OF FARM PRODUCTS RESEARCH

### Cotton Ginning Investigations:

Seasonal cotton ginning has been virtually completed at the Stoneville Laboratory but a number of engineering and mechanical tests remain to be concluded as outlined in the annual program. These comprise an extensive series of fan tests and developmental studies pertaining to double-process gins, cleaners, roll boxes, humidifiers and other items.

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Between December 4 and 21, C. A. Bennett was away from the Laboratory on official business which took him to Chicago, Washington, and Boston.

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As a part of the authorized Agricultural Marketing Service programs on cotton, short radio dialogues on timely ginning subjects were participated in by T. L. Baggett, Associate Agricultural Engineer, from Station

WMC, Memphis, Tenn., on December 7, and from Station WWL, New Orleans, La., on December 9.

Waldo H. Kliever, Associate Engineer-Physicist for the Laboratory, received his Doctor of Philosophy Degree in Physics at the University of Chicago on December 19. Dr. Kliever has contributed several important instruments to the equipment of the Laboratory and is developing apparatus to effectuate the engineering studies in both the Cotton Ginning and Cotton Packaging Projects, between which his time is divided.

Reports from cooperative roller ginning carried on under a joint agreement between the Bureau and a number of Sea Island cotton growers in northeastern Louisiana, indicate that over 125 bales of Sea Island cotton will be handled for the season.

Representatives of the Bureau of Entomology and Plant Quarantine, Messrs. Easter and Patterson, conferred with cotton ginning engineers on January 5, with regard to possible application of the cotton drying processes to the extermination of white fringed beetles which are encroaching on the Gulf Coast.

On January 5, Messrs. Banks, Wheeler, Neely and Rutledge, prominent planters from Clarksdale, Ark., conferred with the Laboratory Staffs of both cooperating Bureaus in regard to the replacement of their cotton gins, which had burned during the past season.

On January 9, Messrs. Fred Ogden and P. P. Pennington, of Sulligent, Ala., visited the Cotton Ginning Laboratory for the purpose of working out drying and cleaning installations for several cotton gins which they operate in northwest Alabama.

The Staff of the Cotton Ginning Investigations is now principally engaged in compiling and analyzing statistical information obtained from the season's tests.

#### Cotton Packaging Investigations.

A survey of gins in the high plains of West Texas has been completed by V. L. Stedronsky, of this Bureau, and L. J. Watson and Charles S. Shaw, of the Agricultural Marketing Service. This was a survey of gins and packing equipment in West Texas in connection with bale packaging investigations. An effort was made to determine the percentage of bale cutting of the short, dry, spongy cotton of that region as compared to the long staple cottons of the Mississippi Delta. About 5,000 bale observations were made at three commercial compresses of bales that were ginned at the plants which were surveyed.

Recently Jesse E. Harmond, Assistant Mechanical Engineer, completed a series of tensile strength tests on various types of cotton ties and cotton buckles. This work was done in cooperation with Mississippi State College at State College, Miss.



A number of miniature cotton bales, pressed on the Laboratory's experimental pilot press, were shipped by the Ginning Laboratory to Director Lynch at New Orleans for use in the dedication ceremonies.

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### Fiber Flax Investigations

R. B. Gray inspected work underway on the fiber flax machinery project at Corvallis in November, and George R. Boyd early in December. Scutching was underway at the time and trips were made to nearby fiber flax plants to observe these operations.

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Tow shakers designed and constructed in the Corvallis shop are operating satisfactory at two of the farm cooperative plants where records are being obtained dealing with performance characteristics of fiber flax machinery.

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An experimental deseeder installed at Canby handled the 1939 crop of slightly over 1,100 tons at that plant. The machine will soon be brought to the shop for overhauling and alterations intended to improve its performance.

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A substantial increase in flax fiber prices has stimulated interest in the production of the crop in Oregon. With a favorable crop season, 1940 production will probably exceed flax plant capacity.

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### CHEMICAL ENGINEERING RESEARCH

Dr. David J. Price attended the annual Fire Department Instructors' conference in Memphis, Tenn., which met there from January 10 to 12. He addressed the conference on "Explosion and Fire Prevention in School Buildings," a subject in which wide interest has been manifested. On January 11 Dr. Price gave a talk before the Lungermen's Club in Memphis on the subject, "Dust Explosion Prevention in Woodworking Industries." From Memphis Dr. Price went to New Orleans for conferences with staff members of the Southern Regional Research Laboratory, and with the contractors and engineers in charge of the construction of the laboratory building.

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Hylton R. Brown left Washington on December 27 for Houston, Texas, for the purpose of investigating the explosions which recently occurred at the Houston Public Elevator and the Houston Milling Company's plant. While in the South he inspected the Southern Pacific elevator in Galveston and the Public Elevator at New Orleans for the purpose of observing their grain-handling operations as well as the installation of dust-collecting equipment. He conferred extensively with grain elevator operators, public officials, and insurance organizations with reference to problems in dust explosion and fire prevention..

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On January 12 Joseph A. Schmitz, Chief Grain Weighmaster for the Chicago Board of Trade, visited the Chemical Engineering Research Division and with Mr. Brown discussed control methods for dust explosion prevention.

Paul W. Edwards devoted two weeks in December to the rating of chemical engineering examination papers for the Civil Service Commission.

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#### Recent Appointments - Indefinite or Probationary

Lee A. Goldblatt	Asst. Chemist	Naval Stores Res.Div.
Lloyd M. Joshel	" "	" " " "
Beatrice Kerlin	Asst. Clerk-Steno (Wyndmoor, Pa.)	East. Reg. Res. Lab.
Ernest G. Beinhart	Sr. Tobacco Technol. " "	" " " "
James F. Couch	Sr. Chemist " "	" " " "
Otto E. Brunkow	Asst. Arch. (Madison, Wisc.)	Div. of Structures
Louis C. Knorr	Under Clerk-Typist (Urbana, Ill.)	" " " "
Alfred G. Roney	Unskilled Laborer, wae (Laurel, Miss.)	Carbohydrate Res.Div.
Clyde F. Parker	" " " "	" " " "
Trilby Thorkildsen	Jr. Steno.	Plans and Service
Leonard W. Gendvil	Asst. Messenger	Bus. Admin.
Clarence M. Swanson	Jr. Laborer (Ames, Ia.)	Ind. Farm Prods. Res.
George P. Minor	Jr. Laborer	Allergen Inv.

#### Recent Appointments - Temporary

Mrs. Lois M. Watson	Jr. Steno.	Plans and Service
Mrs. Malcka R. Stern	" "	" " "
Mrs. Katherine Stewart	Asst. Clerk-Steno	Fertilizer Res.Div.
John F. Myers	Asst. Messenger	Reg. Res. Lab. (Admin)

#### Separations

Knox Vaughn	Under Agri. Aide (Laurel, Miss.)	Carbohydrate Res.
Aaron S. Taylor	Chief Engr. Draftsman (Resigned)	Plans and Service
Lillian M. Goodman	Jr. Steno	" " "
Mrs. Shirley T. Camins	" "	" " "
Mrs. Lois I. Bruce	" "	" " "
Marie C. Caponnetto	" "	" " "
Edwin D. Hunt	Engr. Inspector (Oxford, N.C.)	" " "
Mrs. Bessie D. Reinert	Jr. Steno (Trans. to Agri. Mktg. Serv)	" " "
Alban J. St. Amour	Assoc. Mech. Engineer	" " "
Elinor Irene Jeffries	Jr. Clerk-Steno	Bus. Adminis.
Mrs. Harriet Rice	Jr. Typist	" " "
Mrs. Ursula S. Moore	Clerk (Retired)	" " "
Dorothy M. Haddenhorst	Jr. Typist (Urbana, Ill.)	Div. Structures
Thomas W. Brawner	Agent (FC) (College Park, Md.)	" "
Oliver R. Wulf	Sr. Physicist (Trans. to Weather Bu.)	Fertilizer Res. Div.

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